ABSTRACT

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Title of Thesis Formulation of submicroscopical particles from branched oligoesters

The aim of the thesis was directed to the nanoparticles preparation and optimization method. As the carriers were used oligoesters and polyesters of aliphatic alpha hydroxyacids with branched constutution of chain. Emulsion method solvent distribution and evaporation was used as preparation procedure. The process of oil phase dispersion in the aqueous one was modified in the aspect of velocity of the pouring of this phase into water and in the aspect of continuity of the process. Various solvents of carriers were tested, as emulsifiers were used lecithins and pure phophatidylcholine with the possibility of localisation of these emulsifiers into outer phase or into both the immiscible phases at the same time. The actual acidity change of outer phase by alcalisation was evaluated also. It was demonstrated effect of molecular parameters of carrier, effect of solvent quality and the type of emulsifier and its situation in the heterogeneous system, and effect of modification of the dispersion process on size parameters and on zeta potential of nanoparticles. The size characteristics was measured and interpreted by PCS method by the using od diffusion coefficient measurements, the surface charge was evaluated by the method based on Doppler effect measurements.